AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A photoelectric sensor for detecting the presence/absence of an object in a plurality of detection ~~area~~ areas where a plurality of light-emitting ~~area~~ areas of a light-emitting device and a light-receiving area of a light-receiving device are overlapped with each other, the photoelectric sensor comprising:

a power supply unit ~~that outputs a driving current of the light-emitting device such that its current value is variable~~ for outputting a plurality of values of driving current to the light-emitting device; and

a control unit ~~that controls the power supply unit in order to change in magnitude of the driving current of the light-emitting device and thereby enlarge and/or reduce the light-emitting area of the light-emitting device~~ for outputting a plurality of control signals to the power supply unit so as to make the power supply unit output said plurality of values of driving current, wherein

during a period of outputting one of said plurality of control signals, the control unit determines whether or not an output level of said light-receiving device is equal to or larger than a reference value, and if the output level is determined to be equal to or larger than the reference value, the control unit determines that an object is present in one of the detection areas where one of the light-emitting areas and the light-receiving area is overlapped with each other and outputs a digital or analog detection signal.

Claim 2 (Cancelled).

Claim 3 (Currently Amended): The photoelectric sensor according to claim 1 ~~or 2~~, wherein the control unit is configured to have the function of repeatedly changing ~~in magnitude of the driving current of the light-emitting device~~ said plurality of control signals in a predetermined pattern.

Claim 4 (Previously Presented): A photoelectric sensor for detecting the presence/absence of an object in a detection area where a light-emitting area of a light-emitting device and a light-receiving area of a light-receiving device are overlapped with each other, the photoelectric sensor being configured to allow the light-emitting device to emit light, compare an output level of the light-receiving device with a plurality of reference values different from one another, and output the result of comparison as a digital or analog detection signal in order to detect the presence/absence of the object over a plurality of detection areas.

Claim 5 (Currently Amended): The photoelectric sensor according to claim 4, wherein in order to produce the detection signals based on the output levels of the light-receiving device, said plurality of reference values are repeatedly changed in a predetermined pattern and compared with the output level and the results of comparison are outputted in sequence ~~A photoelectric sensor for detecting the presence/absence of an object in a detection area where a light-emitting area of a light-emitting device and a light-receiving area of a light-receiving device are overlapped with each other, the photoelectric sensor being configured to allow the light-emitting device to emit light, compare an output level of the light-receiving device with a reference value to output the result of comparison as a detection signal, change the reference value to compare the output level of the light-receiving device with the reference value in each change in the reference value, and output the result of comparison as a detection signal in order to detect the presence/absence of the object over a plurality of detection areas~~.

Claim 6 (Cancelled).